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Fed Web 2.0
Reaching across generational boundaries

WORKSHOP
A detailed model of a data governance framework uses charters, rules and people to facilitate information flow.

OSS RISK
Business software assurance (BSA) is a growing industry where an open business environment is necessary.

LAST WORD
Data can be ordered in such a way that it shows a variety of 'truths'. All of them can be correct, but only in the eye of the beholder.

Reaching across generational lines

Adoption of Web 2.0 technologies at the US Federal Governement depends on the willingness of middle-aged managers to break down generational barriers.

By Giora Hadar

Even as Web 2.0 is debuting in workplaces in the private sector, the US federal government has barely started embracing the new technologies.

Yet, government may not have a choice. In the next few years government anticipates a huge brain-drain stemming from mass employee retirement. This election year, the workforce could be especially hard hit if tenured employees exit en masse rather than slog through another transition to a new administration.

Despite fierce resistance from its workers, some agencies are inching towards Web 2.0, including technologies like social computing.

Why the dilemma? Web 2.0 equips workers with tools to create and share knowledge, but its adoption faces cultural hurdles government agencies must first clear. These include opposition by conservative workers and vastly different attitudes towards collaboration in the workplace. While the desire to connect pulls younger workers towards social computing, it pushes their older colleagues in the opposite direction. That some of these challenges are age-based complicates the picture. Government's ability to grapple with this cultural paradox hinges on the will of its largely middle-aged managers to reach across generational lines.

Web 2.0 is user phenomenon

When Dale Dougherty introduced the term Web 2.0 in 2003, he defined it as […] a trend in the use of world wide web technology and web design to facilitate creativity, information sharing, and, most notably, collaboration among users. These concepts have led to the development and evolution of web-based communities and hosted services, such as social-networking sites, wikis, blogs and folksonomies (the practice of categorising content through tags).

Although the term suggests a new version of the world wide web, it does not refer to an update to any technical specifications, but to changes in the ways software developers and end-users use the internet.

Table 1 lists some free or low-cost examples of Web 2.0 applications. This list is not exhaustive since new applications continue to arise.

Such Web 2.0 applications share the following characteristics: they are user-driven, easy to use, low cost, open-source, spontaneous and self-organising.

Largely based on existing technologies, these applications were created primarily for the consumer world, making them familiar and comfortable for many users. People who are accustomed to using Web 2.0 applications on their home computers – they are free or almost free on the web – now demand their introduction at work.

Nevertheless, using applications designed to be tested and refined by the public is a paradigm shift for the business world, one that can create suspicion in information technology (IT) communities.

Organisations using Enterprise Web 1.0 technologies compared to those using Enterprise Web 2.0 exhibit vastly different behaviours. Table 2 is taken from What Is Enterprise 2.0? <http://www.enterprise2conf.com/about/what-is-enterprise2.0.php>

Web 2.0 technologies can streamline organisational processes. As is shown in *Figure 1* (taken from http://www.wikinomics.com/blog/index.php/2008/03/26/wiki-collaboration-leads-to-happiness), e-mail messages with attachments encourage the formation of subgroups that work on their own versions of the document. As a result, some employees receive unwanted attachments while others, who aren't included, miss out on information they need. Wikis, in contrast, let people quickly collaborate while reducing redundancies.

- In terms of knowledge sharing, Web 2.0 brings significant benefits to the workplace, which include the following: Workers need to feel connected to people with similar interests;
- People need to find experts to fill a knowledge gap;
- People need to confirm what they think they know and, in the face of an information onslaught, decide what to pay attention to;
- Workers want to understand the research authors conducted to reach their conclusions.

A changing perspective on KM

Popular social computing sites, such as Facebook and LinkedIn, are spawning new forms of social interaction. Partly due to this sea change, the domain of knowledge, from a knowledge management perspective, is evolving from the realm of the expert to that of the group.

As Hubert Saint-Onge writes in *Leveraging Communities of Practice for Strategic Advantage*, knowledge "emerges in relationships as people collaborate to achieve an objective". In this paradigm, new knowledge is born from the efficient exchange of existing knowledge through viable networks that facilitate collaboration.

In both the public and private sectors, this shift has big implications for organisations. Because knowledge evolves when users validate and apply it, organisations can neither possess nor store their knowledge. This plastic, group-centric view calls into question many traditional knowledge management approaches, which rely on capturing and storing knowledge for future use.

As major a change as that may be for KM, this new view of knowledge is in sync with the values of the young who feel comfortable staying connected to their networks and sharing knowledge with virtual strangers. But it is less attuned to the needs of their elders who are more used to hoarding knowledge or sharing it with a smaller group.

2.0 and gen X, Y

As younger workers enter its workforce, the US federal government will need to implement user-appropriate approaches for knowledge management. Effective strategies will be crucial if government is to compensate for the loss of expertise expected with the impending retirement of most of its executives and managers (see related story on the 'new gen transition', page 14).

This brain-drain tsunami includes, for example, most air traffic controllers hired in 1981 after former President Ronald Reagan fired the controllers who went on strike.

To replace the current controllers, the Federal Aviation Administration will need to recruit from the younger generations. These tech savvy net generation members expect – and even demand – that the workplace will provide their prefered technologies.

A top priority for the US federal government as a whole, then, is easing the transition to the next generations: generation X, born between 1965 and 1982, and generation Y, born between 1982 and 2003. To make that transition a success, the government will need to build the knowledge base of these younger generations, most likely by implementing the kinds of tools they are most familiar with, which include Web 2.0 technologies.

But the government's departing workers have a different set of attitudes and expectations. They belong to the two older generations in the workforce: the traditionalists, or war generation, born between 1922 and 1945, and the baby boomers, born between 1945 and 1964, the largest generation on record.

| Technology	Example
Blog	Wordpress
Instant messaging	Jabber
Member profiles	Facebook, LinkedIn
Microcasting	Twitter
Online project management	Clarizen
Picture sharing	Picasa
Productivity suite	Google Docs, Lotus Symphony
Reviews	Yelp
Social network	Ning
Social tags	Del.icio.us
Video sharing	YouTube
Virtual calendar	Google Calendar
Virtual worlds	Second Life
Visualisation analysis tool	IBM Many Eyes
Web meetings	WebX
Wiki	MediaWiki

Figure 1 – E-mail vs. Wiki

Enterprise Web 1.0	Enterprise Web 2.0
Hierarchy	Flat Organisation
Friction	Ease of Organisation Flow
Bureaucracy	Agility
Flexibility	Flexibility
IT-driven technology / Lack of user control	User-driven technology
Top down	Bottom up
Centralised	Distributed
Teams are in one building / one time zone	Teams are global
Silos and boundaries	Fuzzy boundaries, open borders
Need to know	Transparency
Information systems are structured and dictated	Information systems are emergent
Taxonomies	Folksonomies
Overly complex	Simple
Closed/ proprietary standards	Open
Scheduled	On Demand
Long time-to-market cycles	Short time-to-market cycles

Table 2 – Enterprise 1.0 vs. 2.0

For many of these workers, the new technologies symbolise a loss of control and a sense of inferiority when they compare themselves to their technically fluent younger colleagues. The issue of control is major. Web 2.0 helps level an organisation's strata, leveling the playing field and

Email Collaboration
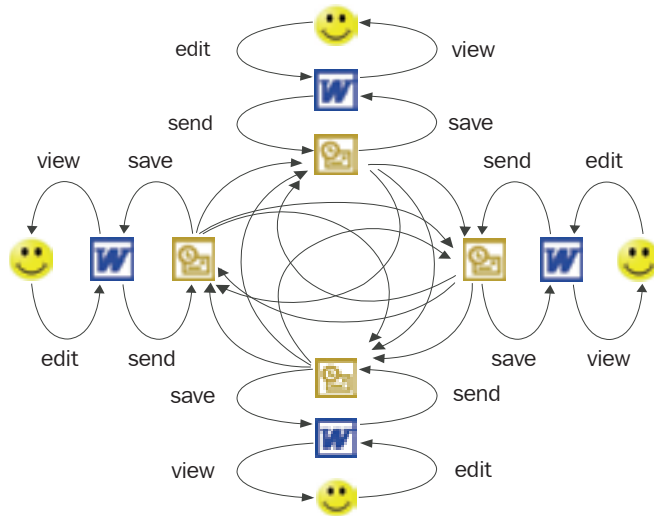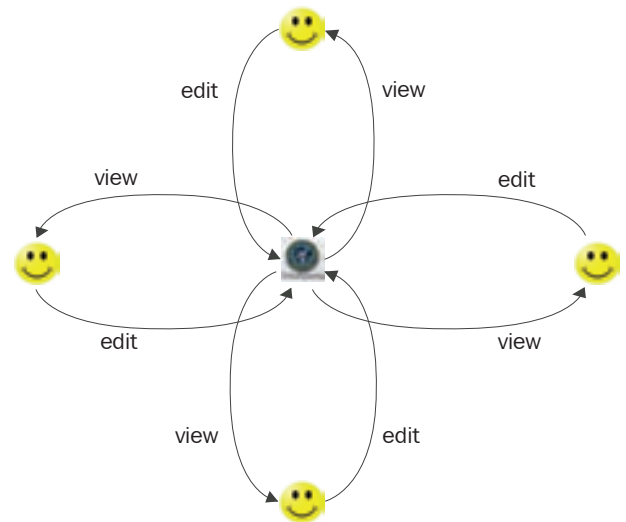
Wiki Collaboration

Figure 1 – E-mail *versus* Wiki

eliminating top-down control. Managers lose their sense of command when people working even at the lowest levels have direct access to executives.

Table 3 describes the attributes, likes and dislikes of each generation. It is adapted from The New Workforce: Five Sweeping Trends That Will Shape Your Company's Future by Harriet Hankin and Educating the Net Generation by Diana G. Oblinger, et al.

Younger workers are comfortable in social computing settings and embrace collaboration with communities of various flavours: co-workers, user groups, communities of interest, communities of practice, and social networks. For example, people in generation Y, Web 2.0's digital natives, shun e-mail, preferring text messaging, twittering and podcasts.
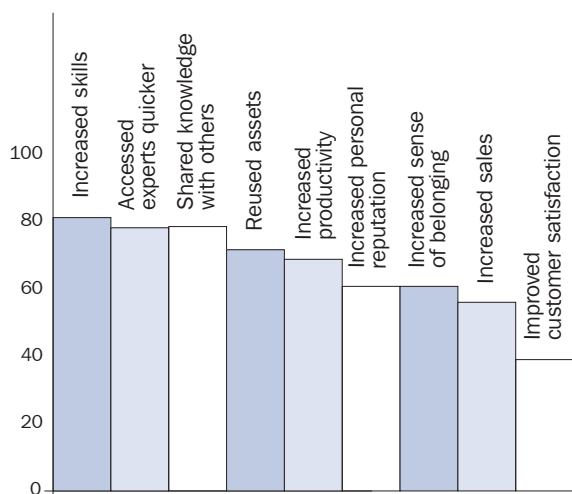
Figure 2 – Benefits of using Web 2.0 tools (Percentage of respondents)

Members of generations X and Y seem never to be unconnected. And they are willing to share knowledge even with people they hardly know, a trust-based mindset radically different from that of the older generations.

Some enlightened managers hope that collaboration through Web 2.0 technologies will help overcome some of the generational challenges. At present, some workers take Web 2.0-type resources for granted, while others are adopting them slowly or not at all.

Changing business models

Web 2.0 is here to stay. Even if organisations erect barriers to adopting these technologies, some employees will find ways to use them anyway, sometimes compromising security.

According to a recent McKinsey & Company survey of 1,988 companies worldwide, 83 per cent use Web 2.0 to manage knowledge. In this group, 78 per cent have adopted Web 2.0 tools to foster collaboration, and 74 per cent use them to enhance company culture. Compared to the year before, the companies increasingly adopted Web 2.0 tools such as really simple syndication (RSS), blogs, and wikis.

Can Web 2.0 make a difference? In early 2008, IBM conducted an internal survey of 2,300 employees on the impact of using Web 2.0 tools, mainly for social collaboration, on their work. Figure 2 shows the results.

Cultural trends in the workplace also bode well for Web 2.0. Here are some examples:

■ In April 2008, Forrester Research issued a report predicting that employees will soon work in a virtual world where Web 2-D is morphed into 3-D. More rapid adoption of the technology will take place when workers will be able to participate from mobile devices;

	Traditionalists	Baby boomers	Generation X	Generation Y
Description	Greatest generation	Me generation	Latchkey generation	■ Net generation
Attributes	■ Command and Control; ■ Self-sacrifice;	■ Optimistic; ■ Workaholic;	■ Independent; ■ Skeptical;	■ Optimistic; ■ Determined;
Likes	■ Respect for authority; ■ Family; ■ Community Involvement.	■ Responsibility; ■ Work ethic; ■ Can-do attitude.	■ Freedom; ■ Multitasking; ■ Work-life balance.	■ Public activism; ■ Latest technology; ■ Parents.
Dislikes	■ Waste ■ Technology	■ Laziness ■ Turning 50	■ Red tape ■ Hype	■ Anything slow ■ Negativity

Table 3 – Generational attributes

- Some executives see the internet as a way to improve productivity and customer service. Gary Hammel in The Future of Management views the internet as a way to create of peer-to-peer relationship, disrupting old business models;
- Capability and contributions are beginning to count for more than titles and credentials. In this new paradigm, ideas compete on an equal footing, decisions are peer-based, commitment is voluntary, and authority is contingent on value added;
- Today's executives are grappling with new challenges, including how to meld employees' knowledge and skills with evolving tasks, according to Web3D: The Next Major Internet Wave by Erica Driver, et al.

Government-specific challenges

While collaborative approaches can transform organisational cultures, their introduction is meeting with resistance from executives and IT organisations in the federal government.

This year's election adds an additional worry. Some observers predict that as many as 50 per cent of tenured executives will retire rather than go through another transition to a new administration, which requires them to train the new flock of political appointees.

Despite the need to pass knowledge on, executives are concerned about allocating money to Web 2.0. They fret that the new technologies have little value, lack a business case and encourage employees to socialise.

Potential roadblocks fall into two categories: technical concerns such as privacy, security, technology, and cost; and organisational issues, including cultural factors and unknowns. The generally conservative IT organisations resist the introduction of unfamiliar technologies, suspecting anything not homegrown or from a trusted vendor. Some are using extreme measures, resisting cultural change much like the bushman in the film 'The Gods Must be Crazy', who journeyed to the 'end of the earth' to destroy a Coca Cola bottle.

Citing security concerns, many agencies block connections to social networking sites from their intranets. Other agencies block access because they object to the content, often created by their own employees. For its part, industry is addressing security concerns by developing ways to bring Web 2.0 behind a firewall.

First steps in the federal government

Despite these formidable obstacles, some agencies are taking small steps towards implementing Web 2.0.

In 2006, the Department of State introduced a wiki called Diplopedia to replace e-mail messages with attachments about upcoming meetings. In August 2008, approximately 1,000 registered users created 650,000 pages and viewed 20,000 new pages weekly, according to Eric M. Johnson of the Office of e-Diplomacy.

Before ambassadors go to a meeting, they can now view agendas and biographies of participating foreign dignitaries by accessing the wiki on their Blackberry. The Department's embracing of this technology stems from a change in its organisational culture from a 'need to know' to a 'need to share'.

At earlier stages, two other agencies, the Defense Acquisition University and the Environmental Protection Agency, have developed internal white papers and guidelines to prepare for the adoption of Web 2.0 technologies.

Other examples Web 2.0 technologies in the federal sector include the following:

- FAA is using social collaboration in support of its disaster recovery programme;
- Several department secretaries use public blogs;
- Intellipedia is a wiki for the intelligence community with two versions, one classified and one non-classified, both in a secure environment. People from 16 US intelligence agencies are participating and collaborating, often without permission from higher-ups;
- Several agencies – for example, National Aeronautics and Space Administration, National Oceanic and Atmospheric Administration, and National Institutes of Health, already have a presence in Second Life.

These break-through agencies are showing the way. Hopefully, the rest will follow. ■

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